Claims

1. A plant protein fraction which is derived from representatives of the Papaveraceae family and which possesses phospholipase D activity, characterized in that
   a) it consists of two protein subfractions A and B, and
   b) it can be activated by Zn^{2+} ions, and also
   c) the subfractions A and/or B possess carbohydrate moieties,
   and with the protein subfraction A only possessing hydrolysis activity.

2. The protein fraction as claimed in claim 1, characterized in that it is derived from Papaver somniferum and very particularly preferably from developing seedlings and/or endosperms.

3. The protein fraction as claimed in claim 1 or 2, characterized in that the subfraction A possesses a molecular mass of between 116 and 118 kDa, an isoelectric point, pI, of between 8.5 and 8.9 and a hydrolytic activity optimum at pH values of between 7.8 and 8.2, and the subfraction B possesses a molecular mass of between 112 and 115 kDa, an isoelectric point, pI, of between 6.5 and 6.9 and a hydrolytic activity optimum at pH values of between 5.0 and 6.0.

4. The protein fraction as claimed in any one of claims 1 to 3, characterized in that the subfraction A has a molecular mass of 116.4 kDa, an isoelectric point, pI, of 8.7 and a hydrolytic activity optimum at pH 8.0.

5. The protein fraction as claimed in any one of claims 1 to 4, characterized in that the subfraction B has a molecular mass of 114.1 kDa,

an isoelectric point, pI, of 6.7 and a hydrolytic activity optimum at pH 5.5.

6. The protein fraction as claimed in any one of claims 1 to 5, characterized in that the subfraction B possesses an activatability optimum at Zn^{2+} ion concentrations of between 1.0 and 10 mM and, particularly preferably, at 5 mM.

7. The protein fraction as claimed in any one of claims 1 to 6, characterized in that the subfractions A and B are isoenzymes.

8. The protein fraction as claimed in any one of claims 1 to 7, characterized in that its trans-phosphatidylating activity is more strongly pronounced than its hydrolysis activity.

9. The use of the protein fraction as claimed in any one of claims 1 to 8 for hydrolyzing and/or trans-phosphatidylating phospholipids and/or their lyso forms.

10. The use as claimed in claim 9 for synthesizing phosphatidylcholine, phosphatidylethanolamine, phosphatidylglycerol, phosphatidylinositol, phosphatidic acid and phosphatidylserine and their lyso forms.

11. The use as claimed in claim 9 or 10 in the form of a hydrolysis of phosphatidylinositol and/or a headgroup exchange performed on phosphatidyl-inositol.